Remarks

Claims 1-14, as filed, are pending in this application. The Examiner has rejected claims 1-8 and 10-14 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,355,401 to Skinner, Sr. (Skinner) in view of U.S. Patent No. 5,469,495 to Beveridge (Beveridge). Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Skinner and Beveridge in further view of U.S. Patent No. 5,623,531 to Nilssen.

Rejection of Claim 1 Under 35 U.S.C. § 103

Claim 1 provides for powering a fiber optic communication network which transmits communication data between a telephone company central office and a remote user device. The system includes a DSL access multiplexer (DSLAM) for converting the digital data from a *digital optical* state to a *digital electrical* state. A fiber optic medium transfers data between the telephone central office and the DSL access multiplexer. A power source supplies the DSL multiplexer with a supply voltage. *An electrical conducting medium conducts the electrical supply voltage and the communication data* from the DSL access multiplexer to a network interface device in communication with the remote user device.

The Examiner asserts that Skinner discloses "a digital subscriber line access multiplexer (17) having means for converting the communication data from a digital optical state to an electrical state (col. 4 line 67 through col. 5 line 1)" at page 3. The cited passage is as follows:

> The video signals are transported to video receiver 17 where they are convened [*sic*] from optical to electrical signals on coaxial cable 24.

Thus, reference 17 is not to a DSL multiplexer, but to a video receiver. Further, it is clear that the video system in Skinner is analog, such as at column 4, lines 12-19 as follows:

> The analog video signals (AM-FDM) from a number of video information providers 23 are carried through fiber optic cable 14 to one or more remote nodes which may include an analog passband video receiver 17 which includes optical/electrical converters where the analog optic signals are converted to analog electrical signals on a coaxial cable 24.

Thus, video receiver 17 is an *analog optical* to an *analog electrical* converter, not a *digital optical* to a *digital electrical* converter.

The Examiner realizes this deficiency in Skinner at page 3 as follows:

> Skinner differs from the claimed invention in not specifically teaching that the digital subscriber line access multiplexer for converting the communication data from a digital optical state to a digital electrical state. However, it is well known in the art of using a modulator and demodulator device for converting signal in either analog or digital forms, for example see Beveridge (Figure 6, element 39 and col. 11 line 64 through col. 13 line 13).

However, modulator/demodulator 39 of Beveridge is also an analog device, as is clear from column 12, lines 30-36, as follows:

> Modulator/demodulator unit 39 also receives the baseband telephony signals from telephone 27 in subscriber premises 21 and modulates that signal onto coaxial cable 24. Optionally, modulator/demodulator unit 39 could send the baseband telephony signal to combiner 44 to be combined with passband signals such as video onto coaxial cable 24.

Thus, modulator/demodulator unit 39 converts *baseband analog electrical signals* to *broadband analog electrical signals*. This clearly has nothing whatsoever to do with converting between *digital optical* and *digital electrical* signals. Nor does modulator/demodulator unit 39 appear to be functioning as a DSL access multiplexer.

Even if modulator/demodulator unit 39 did what the Examiner requires, function as a DSL access multiplexer and convert digital data from an optical state to an electrical state, there is no indication that substituting such a device into Skinner will succeed. Reference 17 in Skinner is to an analog video receiver. Thus, substituting a DSL access multiplexer as suggested by the Examiner will result in Skinner's system failing to operate.

The Examiner also asserts that Skinner discloses "an electrical conducting medium (24) for conducting the electrical supply voltage and the communication data from the digital subscriber line access multiplexer to a network interface device (i.e., 15 or 16)" at page 3. As quoted above, coaxial cable 24 carries analog video information, not digital communication data. In fact, Skinner teaches separate media for delivery of digital communication information than media used for power delivery at column 4, line 55, to column 5, line 10, as follows:

> Referring to FIG. 2, an alternate hybrid fiber coax network is illustrated. As with FIG. 1, central office 13 includes telephone

> switch 11 and video transmission equipment 12 from which a system manager 28 controls various ancillary functions of video services supplied from central office 13 on fiber optic cable 14 through feeder portion of the outside plant 29. The telephony signals are passed through remote digital terminals 18 and supplied through fiber optic cable 14 to optical network unit 15. The video signals are transported to video receiver 17 where they are convened [*sic*] from optical to electrical supply on coaxial cable 24. The video signals are then supplied to interdiction device 16 at the location of the optical network unit 15. In this embodiment ONU 15 and interdiction device 16 are connected and preferably co-located. The major difference between FIG. 2 and FIG. 1 is that power may be supplied through coaxial cable 24 by a power supply 32 which may include an electrical connection to the electrical utility and backup batteries.

ONU 15 receives digital information in an optical format through fiber optic cable 14. ONU 15 receives power from interdiction device 16. Thus, ONU 15 is not connected to a DSL access multiplexer through anything that could be considered an electrical conducting medium carrying an electrical supply voltage and digital communication data in an electrical state. Interdiction device 16 receives analog video signals and power from video receiver 17 through coaxial cable 24. Thus, interdiction device 16 is not connected to a DSL access multiplexer and is not connected through anything that could be considered an electrical conducting medium carrying an electrical supply voltage and digital communication data.

The Examiner has failed to indicate how any combination of Skinner and Beveridge teach or suggest Applicants' invention provided by claim 1. Further, there is no indication that the proposed combination of Skinner and Beveridge would succeed.

Rejection of Claims 2-13

Claims 2-13 depend from claim 1. Since claim 1 is patentable, claims 2-13 are patentable.

Rejection of Claim 14 under 35 U.S.C. § 103

Claim 14, as amended, provides for a method for powering a fiber optic communication network which transmits communication data between a telephone company central office and a user device. Digital communication data is converted from an optical state

to an electrical state using a digital subscriber line access multiplexer. The communication data is transferred between the telephone central office and the digital subscriber line access multiplexer. An electrical supply voltage is provided to power the digital subscriber line access multiplexer. Both the electrical supply voltage and the digital communication data are conducted along a single electrical conducting medium from the digital subscriber line access multiplexer to a network interface device in electrical communication with the remote user device.

As discussed above, no combination of Skinner and Beveridge teaches or suggests using a single conducting medium to conduct both a supply voltage and digital communication data between a DSL access modem and a network interface device. Thus claim 14, as amended, is patentable over the references cited.

Conclusion

Claims 1-14, as amended, are pending in this application. Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness with regards to claims 1-14. The claims are in appropriate condition for allowance, and such action is respectfully requested.

A check in the amount of $110 is enclosed to cover the Petition fee. Please charge any additional fees or credit any overpayments as a result of the filing of this paper to Deposit Account No. 21-0456 as specified in the original Transmittal. A duplicate of this paper is enclosed for that purpose.

The Examiner is invited to call the undersigned to resolve any issue related to this application.

Respectfully submitted,

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By _____

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Attachment

VERSION WITH MARKINGS TO SHOW CHANGES MADE

14. (Amended) A method for powering a fiber optic communication network which transmits communication data between a telephone company central office and a user device, the method comprising:

converting digital communication data from an optical state to an electrical state using a digital subscriber line access multiplexer;

transferring the communication data between the telephone central office and the digital subscriber line access multiplexer;

transmitting an electrical supply voltage from a power source configured to supply an electrical supply voltage to power the digital subscriber line access multiplexer, the power source having an AC power feed for providing power to the digital subscriber line access multiplexer and a DC power feed for providing power to the digital subscriber line access multiplexer when the AC power feed is not supplying power to the digital subscriber line access multiplexer to the digital subscriber line access multiplexer; and

conducting both the electrical supply voltage and the digital communication data along a single electrical conducting medium from the digital subscriber line access multiplexer to a network interface device in electrical communication with the remote user device.